ACC NR: AP6032982

warping during most of the Quarternary period in the area of confluence of the Chichkan, Naryn, and Uzunakhmat Rivers. The most intense downwarping in the Chichkan area took place during the Upper-Quaternary period. Chronological analyses are presented of the major geological processes of the Tyan-Shan', and tectonic maps showing the Alpine and Quaternary orogenies are included. Orig. art. has: 7 figures.

SUB CODE: 08/ SUBM DATE: 26May64/ ORIG REF: 010/

Card 2/2

GZOVSKIY, M.V.; KRESTNIKOV, V.N.; NERSESOV, I.L.; REYSNER, G.I.

Comparing the tectonics and seismism of the Garm region, Tajik S.S.R. Report No.2. Izv.AN SSSR.Ser.geofiz. no.12:1425-1442 D '58. (MIRA 12:1)

1. AN SSSR, Institut fiziki Zemli.
(Garm region--Seismology--Observations)
(Garm region--Geology, Structural)

REYSNER, G.I

S/169/61/000/010/009/053
D228/D304

AUTHORS: Bune, V. I., Gzovskiy, M. V., Zapol'skiy, K. K., Keylis-Borok, V. I., Krestnikov, V. N., Malinovskaya, L. N., Nersesov, I. L., Pavlova, G. I., Rautian, T. G., Reysner, G. I., Riznichenko, Yu. V., and Khalturin, V. I.

TITLE: Methods of the detailed study of seismicity

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 10, 1961, 12-13, abstract 10A144 (Tr. In-ta fiz. Zemli AN SSSR, no. 9, 1960, 327 p.)

TEXT: The Tadzhik complex seismologic expedition was organized with the aim of studying the nature of earthquakes and the conditions of their genesis. The most seismically-active zones of the USSR (Garmo and Stalinabad) were chosen as the work areas. The specific conditions of working and processing the data demanded the development of special systems of observation and methods of interpretation. The large amount of recorded

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S/169/61/000/ 010/005/053
D228/D304

Methods of the detailed...

seismic phenomena permitted the use of statistical methods for studying their distribution in space and time; these methods, in their turn, provided the basis for introducing the quantitative indices of the seismicity characteristics of the seismically-active areas. The actual seismic observations were closely coordinated with geologic investigations, and this provided the possibility of exposing the tectonic basis of the seismic phenomena. A general review of the work area is given in Chapter 1, and concise data on major earthquakes are cited together with the general position of the expedition stations. A description of the standard main and auxiliary apparatus used at the stations, and also the layout and description of newly developed equipment--including an automatic seismic station with a magnetic memory--is cited in Chapter 2. The methods developed and utilized in the expedition for studying the crust's structure in the area under investigation from the records of nearby earthquakes are described in Chapter 3. Horizontal and vertical hodographs were constructed. The resulting material enabled the crust to be represented as a one-layer mass

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with a longitudinal-wave velocity of 6.0 - 6.1 km/sec. At the Mohorovicic boundary, the velocity suddenly changes to 8.0 km/sec. and then somewhat decreases, but at a depth of 300 km it subsequently increases to 9.2 km/sec. These data underlay the construction of isochrone charts used to localize the epicenters and to determine the focal depths. The isochrone charts were constructed with an account of the heterogeneity of the work area's geologic structure and the peculiarity of the seismic stations' location. This enabled the precision of hypocenter localization to be substantially increased, reducing it to 1 - 2 km at the center of the work area's topographic map. In Chapter 4, the definition of the concept of seismic energy at the focus is given, and the basic formulas are derived for its calculation. On the basis of experimentally obtained laws for the dying out of energy with distance, nomographs were constructed to determine practically the energy at the focus from the records of nearby earthquakes. Appraisal of the precision of calculation of the energy in relation to different factors shows that it may be determined accurately to the order of its magnitude. In this connection, the value $K = \lg E$ j.

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is introduced for characterizing the energy class of earthquakes. The value of K is compared with the earthquake magnitude M. The study of the iso-energy lines shows that the different degrees of the dying out of seismic energy along and across the strike of geologic structures exert a decisive influence on the form of the isoseisms. In Chapter 5, the frequencies of seismic vibrations are studied--in relation to the earthquake energy, the distance from the source, the geologic conditions at the point of observation and at the hypocenter, etc.--from recordings at both the customary stations and a special ЧИСС (ChISS) seismic-station intended for frequency analysis of seismic waves directly at their place of registration. A detailed description is given for the frequency-selective seismic-station ЧИСС-1954 (ChISS-1954) and for the results of the investigation of its recordings. Certain epicentral zones with an anomalous frequency are thereby revealed. The procedure for theoretically calculating the focal characteristics, and also for appraising these latter from empirical data, is given in Chapter 6. Several formulas are

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cited for determining the size of a focus in relation to its energy on the basis of different physical propositions. The dynamic parameters of the foci are determined; there appear to be definite predominant directions for both the strike and dip of the fracture planes. The characteristics of the seismic conditions of the Garmo and Stalinabad seismically-active regions--both as a whole and in individual areas--are quoted together with the variations in the parameters of the conditions in time. The quantitative expression of the seismicity during constant seismic conditions is determined by the seismic activity. The possibility is shown of constructing graphs of the recurrence of earthquakes from short observations of weak shocks, and methods are given for determining the period required to obtain the parameters of the seismic conditions with a pre-set precision in relation to the energy of the recorded earthquakes. The statistical constancy of the seismic conditions is determined by the so-called measure of dispersion of the frequency of earthquakes. A brief description of the area's stratigraphy and the history of its geologic development is given in Chapter 8. The structural schemes and descriptions of the most important

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730008-0"

deep faults are cited. The contemporary structure of the Garmo area is depicted as two main regions: the alpine geosynclinal zone in the south and the activated epi-Hercynian platform in the north. In section, it is drawn as several steps of Paleozoic basement adjoining each other along deep faults. A comparison of the seismicity with the tectonics of the study areas is made in Chapter 9. The construction of maps of isolines of seismic activity and gradients of the rate of tectonic movements is recommended for appraising the connection between the seismicity and the tectonics. Methods are cited for constructing such maps. The congruence between these magnitudes is established for the regions under investigation, and areas with the maximum gradient values correspond to those with the highest values of seismic activity. 272 references. [Abstracter's note: Complete translation.]

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ACC NR: AP7003021 SOURCE CODE: UR/0030/66/000/009/0112/0114

AUTHOR: Roysner, G. I.
ORG: none
TITLE: Comprehensive investigations of the Baikal rift zone
SOURCE: AN SSSR. Vestnik, no. 9, 1966, 112-114
TOPIC TAGS: earth crust, upper mantle, tectonics, seismicity, earthquake
ABSTRACT:

The Scientific Council of the Academy of Sciences USSR, which was organized to deal with the complex investigation of the Earth's crust and upper mantle, held a session in Irkutsk from 13—20 June dealing exclusively with the exploration of the Baikal rift zone. Participating in the session were more than 160 representatives of the institutes of the Academy of Sciences, Ministries of Geology of the USSR and the RSFSR, and institutions of higher and special technical education of the RSFSR.

Detailed data on the tectonics and magmatism of global rifts were given in the paper by V. V. Belousov and Yu. M. Sheynmann. The system of large grabens or rift valleys is one of the most important structural characteristics of the Earth's crust. This system entends about 60,000 km around the world. Although it is found primarily at the ocean bottom, it also outcrops in a few places

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on continents (eastern Africa), where it consists of a series of large linear grabens bordered by deep fault zones. The sedimentary overburden filling the grabens is predominantly Cenozoic. Specific features of geological structure, development, tectonics, magmatism, the characteristics of geophysical fields, and the seismicity of rift valleys indicate that these structures are associated with both the Earth's crust and upper mantle.

Other reports dealt with the Baikal rift zone proper. Of greatest interest was the paper presented by N. A. Florensov, which summarized the present-day concepts of its geological structure, tectonics, magmatism, and seismicity. The speaker proved that the Baikal-type grabens cut across the ancient Early Precambrian massifs and exhibit a close connection with the Caledonian structure, especially with the faults of that age. The morphology of these grabens is symmetrical. The layers of Cenozoic sediments up to 6000-m thick filling these grabens are clearly divided into two systems, testifying to an increase in intensity of tectonic movements beginning in the Eocene-Pleistocene when rift formation started to develop. The displacement along the fault zones bordering the Baikal rift zone is about 5000—7000 m.

ACC NR: AP7003021

A more detailed description of the formations of the Baikal rift zone was presented in the papers by L. V. Belov and N. A. Logachev. I. V. Belov concentrated mainly on the characteristics of trachite-basalt Cenozoic formation, found not only in depressions but also in the bordering uplift areas. This formation consists of extrusive blanket-type and pyroclastic facies related to calcareous-alkali and alkali-calcareous series. N. A. Logachev analyzed the Cenozoic sedimentary and volcanic-sedimentary formations. They form two stages of about equal thickness along the Baikal-type depressions.

Several reports dealt with the geological interpretations of geophysical data from the Baikal rift zone. A. P. Bulmasov indicated that it is characterized by a negative magnetic field and intense gravity anomalies. These data indicate that the thickness of the Earth's crust in the Baikal-type depressions must be greater than on the platform and must reach 60—70 km.

A contrary opinion on the nature of negative gravity anomalies in the Lake Baikal depression was expressed by Yu. A. Zorin. According to him, this type of gravitational field does not contradict the assumption that the thickness of the crust in the Baikal depression

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decreases to 30—34 km, as compared with the boundary regions where it is about 45 km. Intense gravity anomalies under Lake Baikal can be explained by the effect of a sedimentary overburden over 5000-m thick in some places.

More detailed data on the magnetic field of the Baikal region was presented by P. V. Korostin, who stressed the sharp differences existing between the Siberian platform and the Baikal rift zone. The Earth's crust in the Cis-Baikal region is broken into a number of blocks by deep-seated faults along the Baikal strike and less frequently striking northwest.

B. E. Shcherbakova reported that, according to the seismic data from the "Zemlya" stations, the Earth's crust within the Baikal rift zone is 42—50-km thick and consists of a "granitic" layer separated from a basaltic layer by a transition zone 5—7-km thick. Magnetotelluric soundings indicate the presence of several horizons with high electrical conducticity located at great depth under the Siberian platform and at lesser depths in the Baikal rift zone.

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ACC NR: AP7003021

The thermal regime of the region was discussed in two papers. Ye. A. Lyubimova reported that the heat flow through the bottom of Lake Baikal is about 3 μ cal/sec, while in adjacent regions it is only about a third of that value. This was interpreted as an indication that the upper mantle in the Baikal rift zone has different properties from those in adjacent regions. S. V. Lysak discussed thermal waters and the thermal regime of the territory.

The high seismicity of the Baikal rift zone was the topic of A. A. Treskov's report. It was pointed out that annually more than 1500 shocks including earthquakes of IX—X intensity occur in this area. Most of the earthquakes have focal depths of 20—25 km. The epicenters are concentrated in relatively few areas. According to seismic data the thickness of the Earth's crust in the region is 42—43 km thick.

The seismotectonics of the Baikal rift zone was analyzed by V. P. Solonenko. He pointed out that all of the big earthquakes are associated with the embrionic-type depressions and, as a rule, are accompanied by subsidence of large areas. The basic types of tectonic movements of the territory are the vertical displacements of individual blocks against the general background of the extension of the crust across

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ACC NR: AP7003021

the orientation of neotectonic structures.

It was noted at the session that, in general, the Baikal rift zone has been thoroughly investigated; however, certain types of investigations have either not been conducted or only on a small scale. In particular, lack of deep seismic data is one of the basic deficiencies which makes it impossible to reach sufficiently reliable conclusions on the structure of the Earth's crust and upper mantle in this unique region and to interpret reliably the results of other geophysical investigations.

Numerous speakers called attention to the lack of sufficient exploratory drilling, the lack of data on the physical properties of rocks under various pressures and temperatures, and to the scarcity of special geochemical investigations.

The session adopted a program of comprehensive investigations of the Earth's crust and upper mantle in the Baikal rift zone for the next five-year period and mapped out a plan for its successful implementation. [FSB: v. 2, no. 12]

SUB CODE: 08 / SUBM DATE: none

Card 6/6

REYSNER, G.I.

Zone of Quaternary troughs in the Pamirs-Tien Shan convergence area. Sov. geol. 6 no.10:104-109 O '63. (MIRA 17:1)

1. Institut fiziki Zemli imeni O.Yu. Shmidta AN SSSR.

KRESTNIKOV, V.N.; REYSNER, G.I.

Stratigraphy of the Tertiary continental sediments of Tuva in Central Asia. Dokl. AN SSSR 164 no.6:1378-1381 O '65.
(MIRA 18:10)

1. Institut fiziki Zemli im. O.Yu.Shmidta AN SSSR. Submitted April 19, 1965.

KUZNETSOV, V.N.; LYUBER, G.I.

Alpine tectonics of the central Tien Shan. Sov. geol. 3 no. 12:3-21 D '61. (MIRA 14:2)

1. Institut fiziki Zemli AN SSSR.
(Tien Shan--Geology, Structural)

REYSNER, G.I.

Recent tectonic movements in the Tien Shan. Priroda 49
no.5:88-90 My '60. (MIRA 13:5)

1. Institut fiziki Zemli im O.Yu. Shmidta AN SSSR, Moskva.
(Tien Shan--Geology, Structural)

S/049/60/000/03/001/019
E131/E691

AUTHORS: Gzovskiy, M.V., Kreatnikov, V.N., Nersesov, I.L. and Reysner, G.I.

TITLE: New Principles of Seismic Zoning Derived for Central Tyan'-Shan. II

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya, 1960, Nr 3, pp 353-370 (USSR)

ABSTRACT: This is a continuation of work published in this journal, Nr 2, 1960. The investigation is based on the seismic zoning chart of the USSR (Ref 13). Only earthquakes of magnitude 9, corresponding to the energy $E = 10^{15}$ J, were considered. The purpose of the investigations was to establish those areas considered to be the safest from the point of view of engineering construction. The method was based on the rate of tectonic movements as described by Gzovskiy et al. (Ref 5). The map shown in Fig 1 was compiled on the basis of the results thus obtained. The method of seismic prognosis consisted of three separate stages:

1) The territory was divided according to the gradients of tectonic movements.

2) The zones thus determined were classified according to the magnitude of the above rate.

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3) The seismic safety was decided on the basis of the above in conjunction with geological data.
As an example, the three safety zones, 1, 2, 3, are shown in Fig 2. The seismic activity A of a zone is defined as a period of the earthquake frequency, T = 1/N, the isolines of which were plotted as shown in Figs 3-5. The first chart was based on the observations during 1957/58, the second during the period 1950-56 and the third was based on the strong earthquakes during the period starting 1885. The unit zones on the charts are of 1000 km^2, the time unit is one year and the energy E = 10^{10}J (K = 10). The seismic charts obtained, therefore, differ from the usual zoning charts by inclusion of the frequency of earthquakes. The final choice of a zone for hydro-engineering construction could be based on the magnitude of earthquakes defined by the standards SN-2-57 (Ref 14) or GOST 3999-48 (Ref 8).

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New Principles of Seismic Zoning Derived for Central Tyan'-Shan. II

As an example, the probability $P \leqslant 0.001$ of occurrence of earthquakes (once or less in 1000 years) is suitable for the erection of less durable structures and $P \leqslant 0.0001$ (once or less in 10000 years) for long-lasting structures. Determination of such a probability can be based on the above zoning charts and the nomogram given in Fig 6. Charts showing the regions of various probabilities of the occurrence of earthquakes, calculated for Central Tyan'-Shan, are given in Figs 7 and 8. There are 8 figures and 19 references, 17 of which are Soviet and 2 English.

ASSOCIATION: Akademiya nauk SSSR, institut fiziki zemli (Academy of Sciences USSR, Institute of Physics of the Earth)

SUBMITTED: July 9, 1959

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KRYSNIK, G. I.

PHASE I BOOK EXPLOITATION SOV/5096

Bune, V. I., M. V. Gzovskiy, K. K. Zapol'skiy, V. I. Keylis-Borok, V. N. Krestnikov, L. N. Malinovskaya, I. L. Nersesov, G. I. Pavlova, T. G. Rautian, G. I. Reysner, Yu. V. Riznichenko, and V. I. Khalturin

Metody detal'nogo izucheniya seysmichnosti (Methods of Detailed Seismic Research) Moscow, Izd-vo AN SSSR, 1960. 327 p. No. of copies printed not given. (Series: Akademiya nauk SSSR. Institut fiziki zemli. Trudy, vyp. 9 [176])

Resp. Ed.: Yu. V. Riznichenko, Corresponding Member AS USSR; Ed. of Publishing House: S. I. Mosarskiy; Tech. Ed.: O. G. Ul'yanova

PURPOSE: This book is intended for geophysicists, particularly seismologists.

COVERAGE: The book summarizes the principal results of the work of the TKSE Instituta fiziki zemli AN SSSR (Tadzhik Complex Seismological Expedition of the Institute of Physics of the Earth of the AS USSR) and the Institut seysmologii AN Tadzhikskoy SSR (Institute of Seismology of the AS Tadzhik SSR) during the period 1955-1957. Among the topics discussed are: seismic apparatus used, new methods for determining the coordinates of earthquake

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foci, detailed methods for determining the structure of the earth's crust, some results of these determinations, methods of determining seismic energy on the basis of a series of criteria, analysis of dominant frequencies, the use of frequency-selective apparatus, a general description and analysis of seismic conditions in the Garm and Stalinabad areas, the geological structure of the Garm region and the history of its development, and a comparison of the spatial distribution of seismicity and the geological and tectonic structure of the area. The Foreword mentions Academician G. A. Gamburtsev [deceased] who laid the foundations for this work when he was director of the TKSE. The individual chapters of the book were written by: Introduction and Chapter 1 — I. L. Nersesov and Yu. V. Riznichenko; Chapter 2 — I. L. Nersesov, Chapter 3 — I. L. Nersesov and T. G. Rautian; Chapter 4 — T. G. Rautian; Chapter 5 — K. K. Zapol'skiy and V. I. Khalturin; Chapter 6 — V. I. Keylis-Borok, L. N. Malinovskaya, G. I. Pavlova, and V. I. Khalturin; Chapter 7 — V. I. Bune, I. L. Nersesov and Yu. V. Riznichenko; Chapter 8 — M. V. Gzovskiy, V. N. Krestnikov, and G. I. Reysner; Chapter 9 — V. I. Bune, M. V. Gzovskiy and I. L. Nersesov. There are 272 references: 185 Soviet, 73 English, and 14 German.

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Rzhevkin

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[redacted], G. I.

Peneplanation and the ancient relief of the western part of the Tuva A.S.S.R. Izv. AN SSSR Ser. geog. no.1:90-97 Ja-F '65. (MIRA 18:2)

1. Institut fiziki Zemli AN SSSR.

KRESTNIKOV, V.N.; REYSNER, G.I.

Characteristics of the latest tectonic movements of the Western Sayan Mountains and eastern Tuva. Dokl. AN SSSR 160 no.4:897-900 F '65. (MIRA 18:2)

1. Institut fiziki Zemli im. O.Yu. Shmidta AN SSSR. Submitted March 11, 1964.

GZOVSKIY, M.V.; KRESTNIKOV, V.N.; LEONOV, N.N.; REZANOV, I.A.; REYSNER, G.I.

Map of recent tectonic movements in Central Asia. Izv. AN SSSR. Ser. geofiz. no.8:1168-1172 Ag '60. (MIRA 13:8)

1. Akademiya nauk SSSR, Institut fiziki Zemli.
(Soviet Central Asia--Geology, Structural--Maps)

3(10)

S/026/60/000/05/029/068
D034/D007

AUTHOR: Reysner, G.I.

TITLE: Latest Tectonical Movements in the Tyan-Shan

PERIODICAL: Priroda, 1960, Nr 5, pp 88-90 (USSR)

ABSTRACT: The author gives some examples of tectonic movements of the Quaternary in the depressions of the Tyan-Shan mountains. Notwithstanding the short duration of the Quaternary (less than 1 million years) considerable deformations of the earth's crust could develop. They show that on the basis of a general relative subsidence of separate large depressions a development of older and the formation of new particular regions of relative elevation and subsidence took place. There are 2 maps and 2 sets of graphs.

ASSOCIATION: Institut fiziki Zemli im.O.Yu.Shmidta Akademii nauk SSSR (Institute of the Physics of the Earth imeni O.Yu.Shmidt of the AS USSR)

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REYSNER, G.I.

Latest tectonic movements in the Alay depression and mountains surrounding it. Dokl.AN SSSR 123 no.6:1104-1107 D '58.
(MIRA 12:1)

1. Institut fiziki Zemli imeni O.Yu.Shmidta AN SSSR. Predstavleno akademikom D.I. Shcherbakovym.
(Alay Valley--Geology, Structural)

SOV/49-58-8-3/17

AUTHORS: Gzovskiy, M.V., Krestnikov, V.N., Nersesov, I.L. and Reysner, G.I.

TITLE: Tectonic and Seismic Conditions of Garmskiy Rayon in Tajik SSR (Sopostavleniye tektoniki i seysmichnosti yu Garmskogo rayona Tadzhikskoy SSR.I) Part I.

PERIODICAL: Izvestiya Akad mii Nauk SSSR, Seriya Geofizicheskaya, 1958, Nr 8, pp 959 - 976 + 2 plates (USSR)

ABSTRACT: A junction of the vast Asian mountain chains, Himalaya-Pamir geosyndine and the T'ien-Shan Range with the Tajik depression represents territory of very active seismic activities. Particularly, the Garmskiy rayon is known for its highest concentration of the epicentres (Figures 1 and 5).
The history of its alpine, tectonic movements and the formation of its geological structure can be represented in the form of diagrams. The structural changes which were undergone during the periods of the Mesozoic and the Kainozoic in the eastern part of the region along the line NW-SE are shown in Figure 2, while Figure 3 represents the same cross-section running through Garm-
Card1/5 skiy rayon.

Some of the data given in the diagrams were interpolated from the places situated farther away (Figure 4) but it was assumed that the possibility of error could not affect the general character of the graphs.
A clear difference in the tectonic movements between the geosyncline and the plateau areas can be clearly distinguished in Figures 5 and 6.
The present structure (Figure 7) of the Garmskiy rayon and NE part of the Tajik depression is characterised by several divisions of which the most important is the alpine district of Pamir and Darvaz.
A main feature of the structure of the Garmskiy rayon is a vertical displacement of the isolated blocks separated by the tectonic faults which break through the Earth's core. The traces of these faults can be found even in the Palacozoic base. A change occurred in their direction in comparison with that in the Neogen and Quaternary periods at the time when an inversion took place of the pre-Pamir depression and when the region of the Kabudkrin rose above the surrounding areas.
At the same period in the north-west of the Kabudkrim

anticline, a series of faults developed, the depth of which is characterised by the long and narrow grabens filled with small rocks (Figure 1). These grabens could not be independent structures as those in other areas (Figure 7). It can be assumed that they are the remnants of the changed direction of the movements of neighbouring regions. Originally, a rise of one of the regions caused the formation of a fault. The faults, in turn, caused a break in the general movement of the area. Thus, at the boundary of two neighbouring tectonic regions, the faults can be found, usually at the narrow ridges (Figures 1 and 3). The formation of new faults in relation to the dislocations are explained by the faults being not vertical. They are mostly inclined towards its lifted side.
A noticeable feature is a very well-maintained range of the young faults and folds of Neogen-Quaternary origin. Their large number signifies a horizontally directed course of the tectonic regions. Also, it can be assumed from their general orientation that the shear effect was directed along the Meridian.
The Palaeozoic foundation of the Garmskiy rayon was effected

Tectonic and Seismic Conditions of Garmskiy Rayon in Tajik SSR

by both the strong, vertical forces and the weaker, horizontal shearing stresses, thus being subjected to a deformation which was of plastic character. This can be seen on the surfaces where the Palaeozoic is found close to the Mesozoic rocks. Where this type of deformation occurred with great speed, the faults were formed. It could be said that all the blocks of Palaeozoic origin behaved not as rigid bodies but as a plastic medium with some parts of the Earth core being somewhat of greater viscosity in relation to the Mesozoic and the Tertiary sedimentations.

The general character of the mechanism of formation of the alpine structure of the Garmskiy rayon could be also applied to the regions of Tajik depression (Figure 6). It can be assumed that the developments in the Garmskiy rayon took place during the second half of the Quaternary period and lasted about 120-230 thousand years which can be compared with 600 thousand years of the total time of the Quaternary period.

SOV/49-58-8-3/17

Tectonic and Seismic Conditions of Garmskiy Rayon in Tajik SSR

There are 8 figures and 28 references, 25 of which are Soviet and 3 German.

ASSOCIATION: Akademiya nauk SSSR Institut fiziki Zemli (Ac.Sc.USSR, Institute of Terrestrial Physics)

SUBMITTED: August 28, 1957

1. Geology--USSR

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SOV/ 49 -58-12-1/17

AUTHORS: Gzovskiy, M. V., Krestnikov, V. N., Nersesov, I. L., Reysner, G. I.

TITLE: Comparison between the Tectonics and Seismicity of Garmskiy Rayon of Tadzhik SSR. II (Sopostavleniye tektoniki s seysmichnost'yu Garmskogo rayona Tadzhikskoy SSR. II)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya geofizicheskaya, 1958, Nr 12, pp 1425-1442 and 2 inserts (USSR)

ABSTRACT: It was observed that more than 9000 epicentres of the energy from 10^4 - 10^{13} j showed activity during 1955 and 1956 in Garmskiy rayon of about 13 500 km^2 (Figs.2, 3 and 8). The earthquakes were registered in sufficient detail to give a complete picture of the seismicity of this region (Fig.1). This region, therefore, was chosen for the investigation on the relationship between seismicity and tectonic structure. A quantitative method of investigation was chosen so that the analysis of tectonics could be utilised in the determination of seismicity. The mean gradient of the velocity of vertical tectonic movements of the earth crust was calculated from Eqs.(1) and (2). Some results are shown in Figs.4, 5 and 7 and Tables 1 and 2. The cross-sections I-I and II-II employed in the calculations can be seen in Fig.6. The comparison showed that in Garmskiy rayon the areas of higher

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Comparison between the Tectonics and Seismicity of Garmskiy Rayon of Tadzhik SSR. II.

seismic activity coincide with the banded structure, for which a mean gradient of tectonic movements in the Quaternary period was high (Figs.5 and 6). Therefore, it can be stated that the velocity of seismic activities increases with an increase of mean tectonic gradient. In order to verify this relation, a method was devised which could be applied to any region having seismic activity of short duration (2 to 3 years), provided weak earthquakes and the measurable gradients of tectonic movements are of recent origin. This method is based on the detailed analysis which showed that the correlation between the frequency of earthquakes (Fig.1) and the tectonic gradient, Fig.6, is maintained in various areas of the Garm region (Table 3, A_7 - frequency). As the above relation was found for one region only, it is possible that some modifications

Comparison between the Tectonics and Seismicity of Garmskiy Rayon of Tadzhik SSR. II.

are necessary for the different tectonic structures or for various depths of the earth crust. Therefore, the investigations in this matter are not yet concluded and the additional information will be presented at some future date. There are 3 tables, 8 figures and 28 references, of which 23 are Soviet, 3 are German (2 translated from Hungarian), and 2 are English.

ASSOCIATION: Akademiya nauk SSSR, Institut fiziki Zemli (Academy of Sciences, USSR, Institute of Physics of the Earth)

SUBMITTED: August 4, 1958.

SOV/20-123-6-40/50

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AUTHOR: Reysner, G. I.

TITLE: The Most Recent Tectonic Movements of the Alayskaya Depression and of Its Mountain Bordering (Noveyshiye tektonicheskiye dvizheniya Alayskoy vpadiny i yeye gornogo obramleniya)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 6, pp 1104-1107 (USSR)

ABSTRACT: In the Mesozoic age existed in the above mentioned area an Epiherzynic plateau. At the place, where the main part of the Alayskaya depression and the Zaalayskaya mountainridge is located today, an intrageosyncline developed, in which sediments of a few thousand m thickness were deposited. In the south it is bounded by the North-Pamir intrageosyncline. At the end of the Paleocene and at the beginning of the Neocene these two were affected by intensive rising movements, after they had already gone through different developments. On the plateau the Alayskiy mountainridge started to rise. The intrageoanticline in the North-Pamir has included by its extension to the north the southern part of the intrageosyncline in the formation of the Zaalayskiy ridge. These risings were separated by an area of

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The Most Recent Tectonic Movements of the Alayskaya Depression and of Its Mountain Bordering

relative warping, the Alayskaya depression. In the Neocene old faults become active again and new faults are formed (Fig 1). Thereby common vaultlike domes of the mountainridges were split into single blocks, which moved with different speeds in relation to each other. This character of movement is proved in the relief of the ridges by three steps. They proceed in latitudinal direction, parallel to the axes of the ridges and they are separated from each other by falls of several hundred meters. In the Quarternary the domes of both ridges extend at the expense of the adjoining parts of the Alayskaya valley. This Neocene-raised part of the valley forms nowadays the lowermost step. The author gives a scheme of division of the mentioned terrain in areas, sub-regions and districts (Fig 2) (partly after Ye. Ya. Rantsman). The described movements in the area of the alpine geosyncline and the Epihercynic plateau obliterate the differences between these two areas. The systems of mountainridges are therefore not uniform, but consist of parts of different geological history. There are 2 figures.

SOV/20-123-6-40/50

The Most Recent Tectonic Movements of the Alayskaya Depression and of Its Mountain Bordering

ASSOCIATION: Institut fiziki Zemli im. O. Yu. Shmidta Akademii nauk SSSR (Institute of Physics of the Earth imeni O. Yu. Shmidt Academy of Sciences, USSR)

PRESENTED: April 16, 1958, by D. I. Shcherbakov, Academician

SUBMITTED: April 16, 1958

Card 3/3

GZOVSKIY, M.V.; KRESTNIKOV, V.N.; NERSESOV, I.L.; REYSNER, G.I.

Comparing the tectonics and seismicity of the Garm region in Tajikistan. Part 1. Izv. AN SSSR. Ser. geofiz. no.8:959-976 Ag '58. (MIRA 11:9)

1. Akademiya nauk SSSR, Institut fiziki Zemli.
(Garm region--Geology, Structural)
(Garm region--Seismology)

REYSNER, G.I

49-3-15/16

AUTHOR: Kirillov, F.A.

TITLE: Conference of junior research workers, engineers and aspirants of the Institute of the Physics of the Earth, Ac.Sc., U.S.S.R. (Konferentsiya mladshikh nauchnykh sotrudnikov, inzhenerov i aspirantov Instituta Fiziki Zemli AN SSSR).

PERIODICAL: "Izvestiya Akademii Nauk, Seriya Geofizicheskaya" (Bulletin of the Ac.Sc., Geophysics Series), 1957, No.3, pp.411-415 (U.S.S.R.)

ABSTRACT: The conference was held on December 24-26, 1956, 21 papers were read relating to work completed in 1955 and 1956. In this report the contents of the individual papers are briefly summarised.
V. A. Romanyuk read a paper on determining the force of gravity of the sea; it is stated that other authors did not take into consideration the rotation of the base when formulating the differential equations of the pendulum movements and, therefore, he derived formulae in which this rotation is taken into consideration and which are convenient for practical utilisation.
A. V. Rykov read a paper on measuring the energy flow of seismic waves. He obtained several recordings of the

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Conference of junior research workers, engineers and aspirants of the Institute of the Physics of the Earth, Ac.Sc., U.S.S.R. (Cont.)

energy of seismic waves and evaluated the energy of earthquakes comparing the results with values calculated by means of a formula which is in use.
V. A. Smirnov discussed his investigations with optical instruments for measuring the seismic inclination proposed by G. A. Gamburtsev.
G. I. Reysner read a paper on "New movement of the Alay depression and the mountains surrounding it".
N. N. Leonov read a paper on the present structure of the Pamir-Alay region and comparison of its structure with the seismicity.
S. V. Vinogradov read a paper on acoustical observations in (coal) mine workings and he concluded that such acoustical observations are of interest from the point of view of investigating physical processes taking place in earthquake foci.
Card 2/4 V. I. Myachkin read the paper "Study of the stress state of a massive under mine working conditions by means of ultrasonics."

Conference of junior research workers, engineers and aspirants of the Institute of the Physics of the Earth, Ac.Sc., U.S.S.R. (Cont.)

I. S. Tomashevskaya read the paper "On the problem of investigation of the shear modulus of rock specimens under conditions of high pressures from all sides".
O. I. Silayeva read a paper on investigating the propagation of elastic waves in rods and plates.
The paper of V. S. Isayev was devoted to the study of distortions of the wave pattern in the case of grouping of seismographs (explosions) in seismic prospecting.
S. A. Fedotov read a paper on the kinematic and dynamic features of waves refracted at curvilinear boundaries.
Ye. V. Rybakova read a paper on dipole electromagnetic sounding.
O. M. Barsukov read the paper "Certain problems of the method of measurement in an elliptical polarised electromagnetic field".
B. P. D'yakonov read the paper "Diffraction of electromagnetic waves on spherical inclusions in a two-layer medium".
I. I. Rokityanskiy read a paper on the study of the induced polarisation in ion conducting rocks.
A. S. Bol'shakov read the paper "Magnetic stability of rocks".
R. S. Taychinov read the paper "Magnetic properties of sedimentary rocks in strong magnetic fields".

49-3-15/16

Conference of junior research workers, engineers and aspirants of the Institute of the Physics of the Earth, Ac.Sc., U.S.S.R. (Cont.)

S. P. Burlatskaya read a paper on the technique of measuring the magnetic properties of rocks.
S. Yu. Brodskaya read a paper on investigating the magnetic properties of anisotropic rocks.
Ye. N. Mokhova read the paper "Magnetization of a rectangular prism".
N. F. Mal'tseva and K. Ya. Koz'yakova read a paper on the technique of evaluation of recordings of micro-variations of the magnetic field of the Earth.

AVAILABLE: Library of Congress

Card 4/4

REYSNER, G.I.

Plotting velocity gradient charts for vertical tectonic movements of the earth's crust as exemplified in the northern Tien Shan. Izv.AN SSSR.Ser.geofiz. no.9:1316-1320 S '60. (MIRA 13:9)

1. Akademiya nauk SSSR, Institut fiziki Zemli.
(Tien Shan--Earth movements)

REYSNER, I. M.; B. K. Pubtsova, ED.

Novaya Istoriya Stran Zarubezhnogo Vostoka. (New History of the Countries of the Non-Soviet Far East) Pod Red. I. M. Reysnera I B. K. Pubtsova. Moskva, Izd-vo Moskovskogo Universiteta, 1952.
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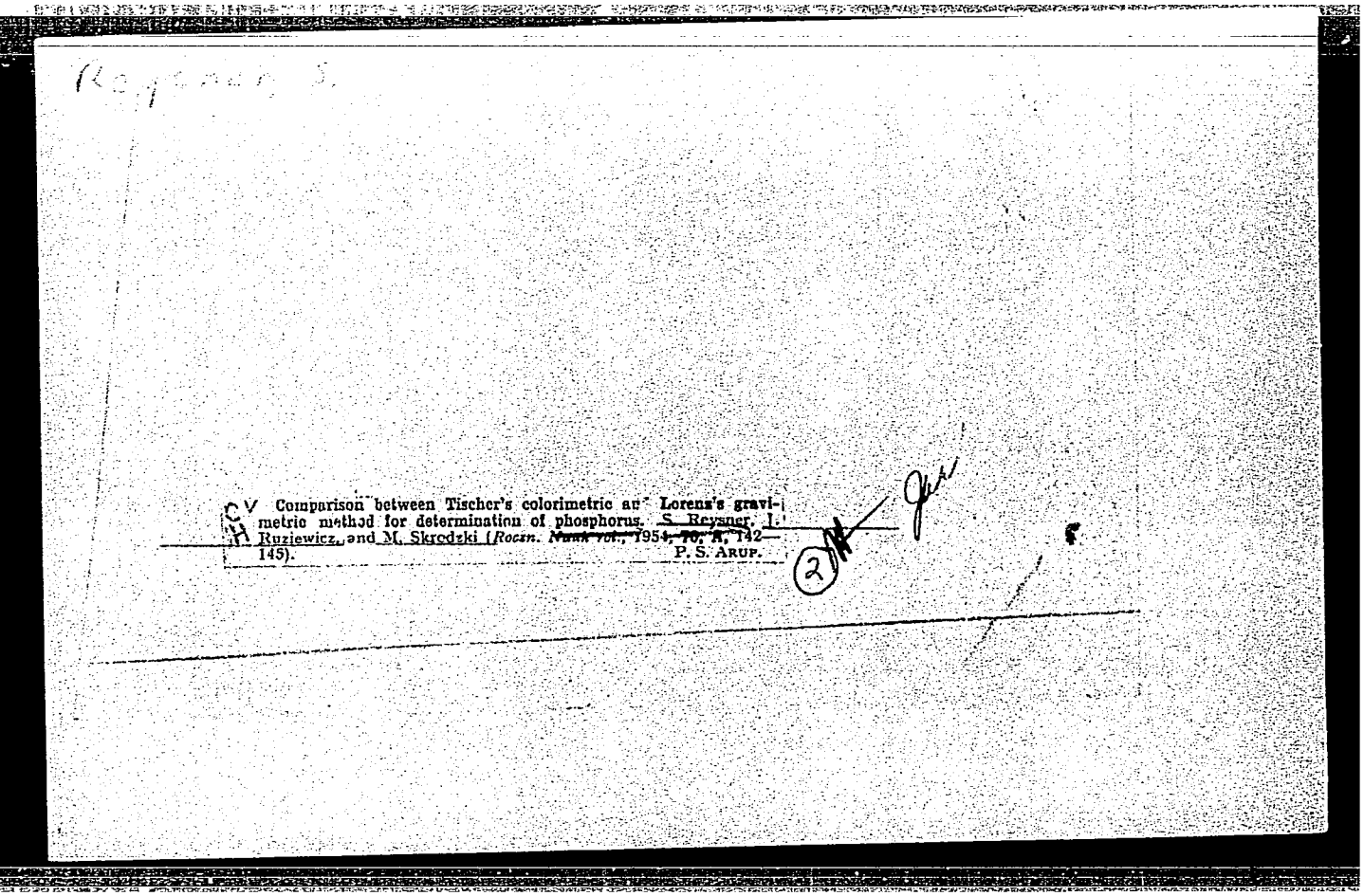
REYSNER, Igor' Mikhaylovich, doktor istoricheskikh nauk; AKHRAMOVICH, Roman Timofeyevich , kandidat istoricheskikh nauk; PANTELEYEV,M.V., redaktor; ISLENT'YEVA,P.G., tekhnicheskiy redaktor

[Our neighbor Afghanistan] Nash sosed Afganistan. Moskva, Izd-vo "Znanie," 1956. 47 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser. 1, no.4)
(Afghanistan) (MIRA 9:4)

REYSNER, L. I.

"The correlation between the production of capital goods and the production of consumer goods permitting the most effective development of an independent economy in under-developed countries."

report to be submitted for the United Nations Conference on the Application of Science and Technology for the Benefit of the Less Developed Areas - Geneva, Switzerland, 4-20 Feb 63.



Comparison between Tischer's colorimetric and Lorenz's gravimetric method for determination of phosphorus. S. Reysner, I. Ruziewicz, and M. Skrodzki (*Roczn. Nauk rol.*, 1954, 70, A, 142–145). P. S. ARUP.

DANTSIG, Boris Moiseyevich; REYSNER, I.M., doktor istoricheskikh nauk, redaktor; KOSTINSKIY, D.N., redaktor; SHCHUKINA, V.V., redaktor; RIVINA, I.N., tekhnicheskiy redaktor.

[Iraq; a brief sketch of its geography] Irak, kratkii geograficheskii ocherk. Moskva, Gos.izd-vo geogr.lit-ry, 1955. 134 p. (Iraq--Description and travel) (MLRA 8:10)

KARNOVSKIY, A.I., kand. tekhn. nauk (Dnepropetrovsk); KULAYEV, K.V. (Dnepropetrovsk); REYTBLAT, A.Ya., inzh. (Dnepropetrovsk)

Potentials for reducing the idle time of locomotives. Zhel. dor. transp. 46 no.5:71-73 My '64. (MIRA 18:2)

1. Glavnyy inzh. Pridneprovskoy dorogi (for Kulayev).

REYSNER, I. M.; B. K. RUBTSOVA, ED.

Novaya Istoriya Stran Zarubezhnogo Vostoka. (New History of the Countries of the Non-Soviet Far East) Pod Red. I. M. Reysnera I B. K. Rubtsova. Moskva, Izd-vo Moskovskogo Universiteta, 1952.
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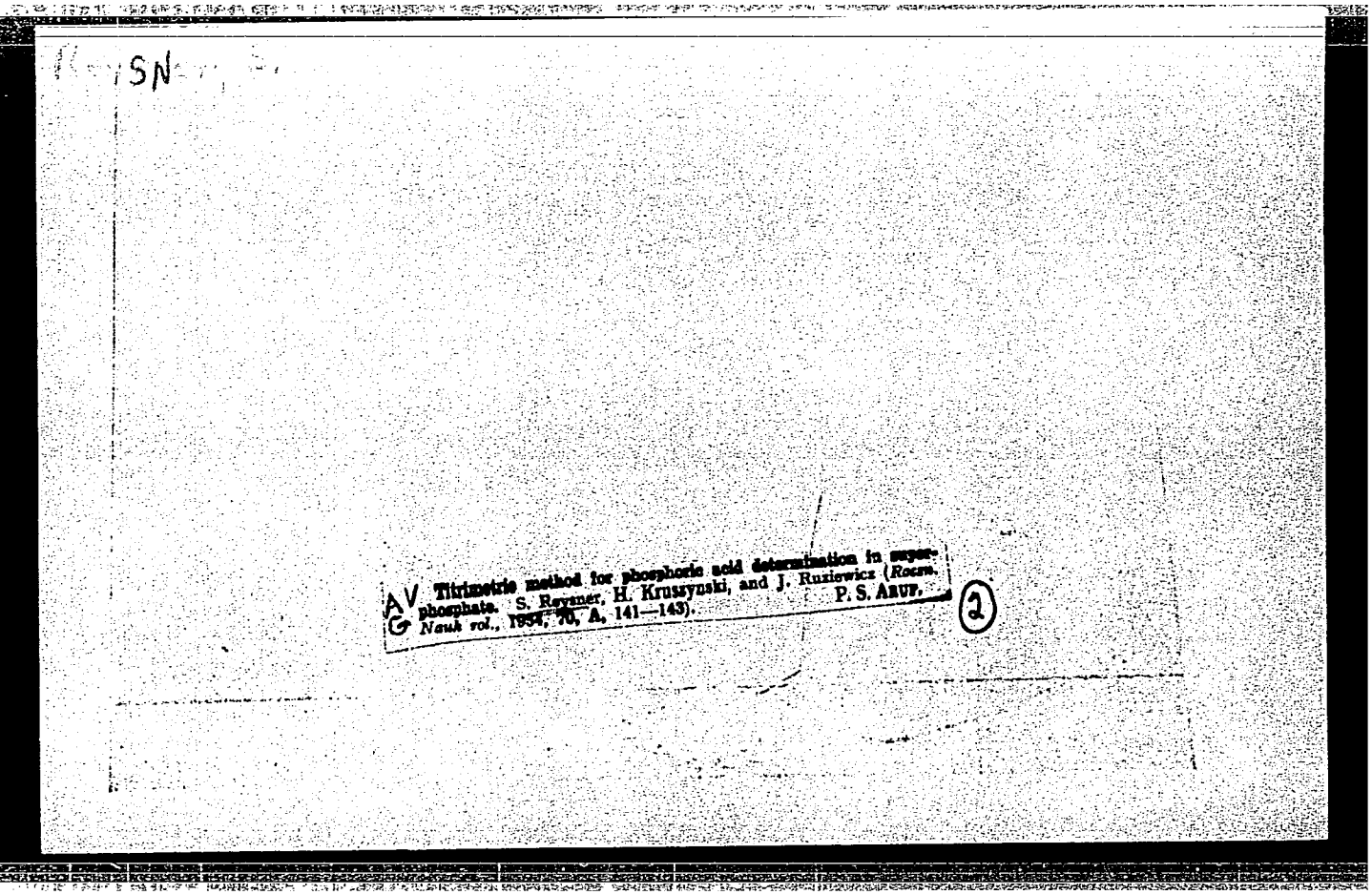
REYSNER, Ludmila

Standards for the consumption of raw materials. Przem chem 41 no.7:397-398 Jl '62.



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AV G Titrimetric method for phosphoric acid determination in superphosphate. S. Reysner, H. Krussynski, and J. Ruziewicz (*Roczn. Nauk rol.*, 1954, 70, A, 141—143). P. S. ARUP.

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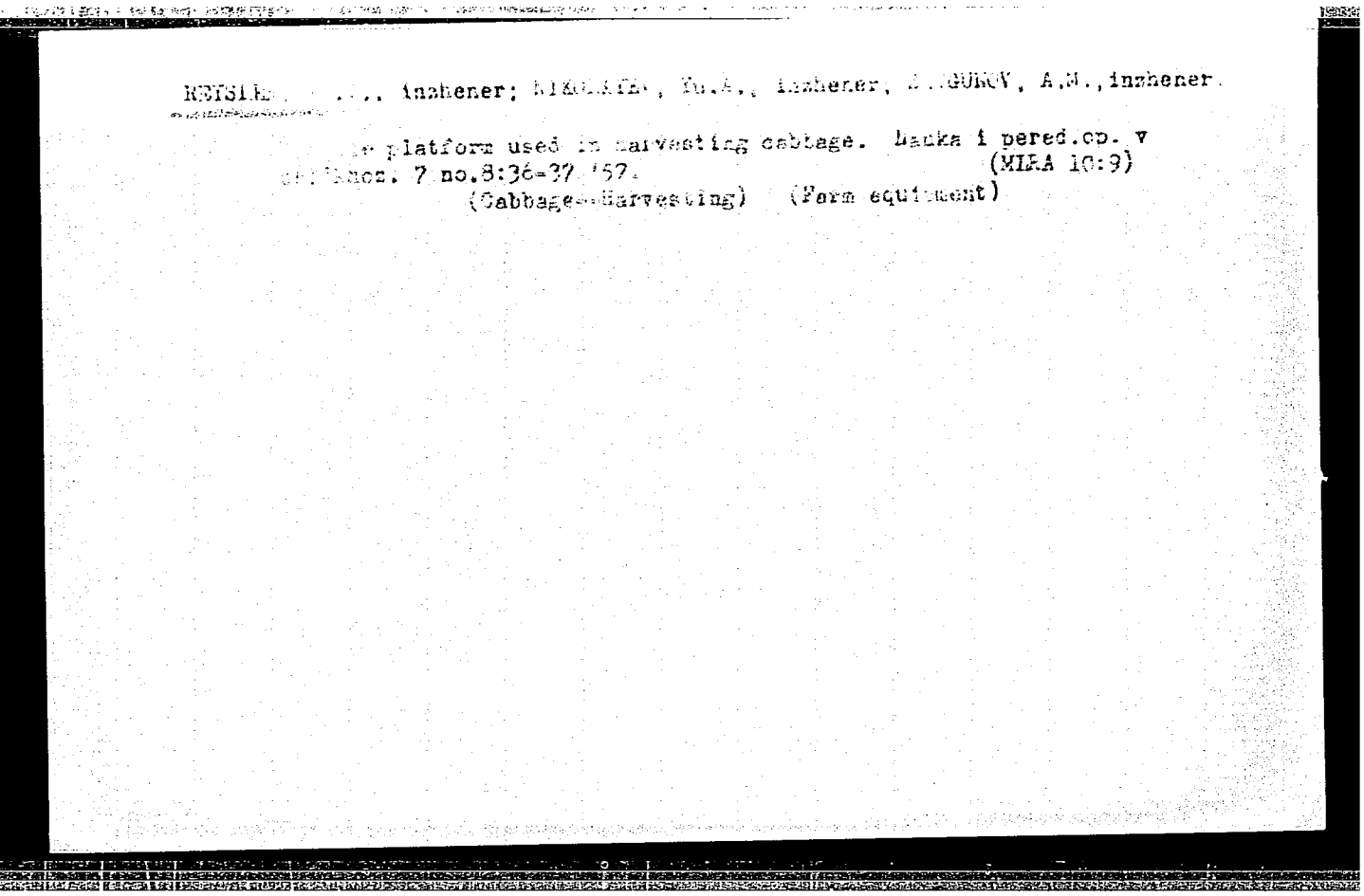

KRYSIN, ..., inzhener; KIRILIN, Yu.A., inzhener, ...GUROV, A.M., inzhener.

... platform used in harvesting cabbage. Mekh. i pered.op. v sel'khoz. 7 no.8:36-37 '57. (MIRA 10:9)
(Cabbage--Harvesting) (Farm equipment)

REYNSNE, A. D.

REYNSNE, A. D. -- "Parasitic Fauna of Fish in the Productive Lakes of the Latvian SSR." Latvian State U. Riga, 1955. (Dissertation for the Degree of Candidate in Biological Sciences)

No 1

SO: Knizhnaya Letopis', 1956, pp 102-122, 124

GLINKOV, M.A., doktor tekhn.nauk, KAGANOV, V.Yu., kand.tekhn.nauk, PLESSAREV, V.I., inzh.; REYSS, M.R., inzh.; BLINOV, O.N., inzh.; SURGUCHEV, G.D., inzh.

Computing equipment to determine the heat absorption by carbon content in an open-hearth furnace bath. Stal' 24 no.2:120-123 F '64. (MIRA 17:9)

SURGUCHEV, G.D.; BLINOV, O.M.; REYSS, M.R.; YAVOYSKIY, V.I.

Automatic control of charging and preheating periods in open-hearth smelting. Izv. vys. ucheb. zav.; chern. met. 6 no.9: 39-44 '63. (MIRA 16:11)

1. Moskovskiy institut stali i splavov.

SURGUCHEV, G.D.; BLINOV, O.M.; REYSS, M.R.

Control of open-hearth furnace production with the use of computers. Metallurg 10 no.6:17-19 Je '65. (MIRA 18:6)

1. TSentral'naya laboratoriya avtomatiki i Moskovskiy institut stali i splavov.

KAGANOV, V.Yu.; BLINOV, O.M.; SURGUCHEV, G.D.; REYSS, M.R.

Optimum method of calculating the heat absorption of open-hearth furnace baths. Izv.vys.ucheb.zav.; chern.met. 6 no.1:194-200 '63. (MIRA 16:2)

1. Moskovskiy institut stali s splavov.
(Open-hearth furnaces) (Heat--Transmission)

MESHCHERYAKOV, M., REYT, A., GRIGOR'YEV, Ye., and KURCHINA, T.

Mbr., Radium Institute, Acad. Sci., -1946-.

"On the Instability of He^5," Dok. AN, 52, No. 9, 1946

REYTANOVSKIY, G.

A sore spot. Sov.foto 17 no.6:8-11 Je '57. (MLRA 10:8)
(Photography, Journalistic)

TITOVA, A.V.; KOROSTELEVA, M.M.; GALIVETS, L.S.; REYTAROVSKIY, I.K.; NEDOSHOPA, G.N.

Increasing the concentration of nitrogen oxide in coke-oven gas during aqueous purification. Khim. prom. 41 no.10:747-751 O '65. (MIRA 18:11)

1. Dnepropetrovskiy nauchno-issledovatel'skiy institut epidemiologii, mikrobiologii i gigiyeny i Dneprodzerzhinskiy azotnotukovyy zavod.

REYTBLAT, A.

Rodents of the mouse family in Kiev parks and their role in the municipal economy. Nauk.zap.Kiev.un.9 no.6:97-102 '50. (MLRA 9:10)
(Kiev--Mice)

REYTBLAT, A.G.

A new species of gamasid mites of the genus Olopachys (Parasitiformes, Gamasoidea) [with summary in English]. Paraz. sbor. 18:180-182 '58. (MIRA 12:3)

1.Petrovskoye otdeleniye Nauchno-issledovatel'skogo protivochumnogo instituta Kavkaza i Zakavkaz'ya Ministerstva zdravookhraneniya SSSR.
(Zelenchuk Valley--Mites)

REYTBLAT, A.G.

Biology of the gamasid mite Haemolaelaps semidesertus Breg. (Gamasoidea, Parasitiformes). Zool. zhur. 44 no.6:863-870 '65. (MIRA 18:10)

1. Dagestanskaya protivochumnaya stantsiya, Makhachkala.

REYTBLAT, A.G.

Fauna of gamasid mites (Gamasoidea, Parasitiformes) in Stavropol Territory. Mat. k pozn. fauny i flory SSSR. Otd. zool. no.39:244-258 '64. (MIRA 17:6)

REYTBLAT, A.G.

Fauna of gamasid mites in transcaucasia. Paraz. sbor. 21:69-82 '63. (MIRA 17:4)

1. Dagestanskaya protivochumnaya stantsiya.

KARNOVSKIY, A.I., dotsent (Dnepropetrovsk); REYTBLAT, A. Ya. (Dnepropetrovsk)

Improved plan for making up trains. Zhel dor. transp. 47 no. 11: 30-33 N '65 (MIRA 19:1)

1. Dnepropetrovskiy institut inzhenerov zheleznodorozhnogo transporta (for Karnovskiy). 2. Glavnyy inzh. sluzhby dvizheniya Pridneprovskoy dorogi (for Reytblat).

REYTBIAT, A.Ya. (Dnepropetrovsk); TISHKIN, Ye.M., inzh. (Dnepropetrovsk)

Method for the accelerated delivery of local shipments. Zhel.-dor.transp. 45 no.12:73-75 D '63. (MIRA 17:2)

1. Glavnyy inzh. sluzhby dvizheniya Pridneprovskoy dorogi.

REYTBLAT, S. (Leningrad)

Workers of the "Skorokhod" Factory relax. Rabotnitsa 36 no.7: 8-9 Jl '58. (MIRA 11:9)

1. Predsedatel' soveta fizkul'tury fabriki "Skorokhod." (Camps)

REYTBLAT, V. L.

18 18

Determination of tungsten in high-speed steel. N. A. Bogdanov, I. S. Kulikov, A. A. Zhukhovitskii, and V. L. Reitblat. U.S.S.R. 102,686, Apr. 30, 1956. A sample of high-speed steel is irradiated with β- or α-particles and the amt. of W is detd. by the intensity of deflected particles.
M. Hosch

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4631

BOGDANOV, N.A., kandidat tekhnicheskikh nauk; REYTBLAT, V.L., inzhener; FUNKE, V.F., kandidat tekhnicheskikh nauk; ZHUKHOVITSKIY, A.A., professor, doktor khimicheskikh nauk.

Beta ray reflection and the analysis of metals. Sbor. Inst.stali 34:283-305 '55. (MLRA 9:7)

1.Kafedra fizicheskoy khimii i kafedra metallurgii redkikh metallov.
(Beta rays)

GOMOZOV, L.I., inzhener; REYTBLAT, V.L., inzhener; FILIPPOV, S.I., doktor tekhnicheskikh nauk.

Using models for the study of processes in steel teeming equipment. Sbor. Inst. stali no.35:201-211 '56. (MLRA 10:8)

1. Kafedra teorii metallurgicheskikh protsessov.
(Smelting--Equipment and supplies)
(Dimensional analysis)

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ACCESSION NR: AP5018155 UR/0097/65/000/007/0023/0026
69.058.2

AUTHORS: Babkov, V. V. (Engineer); Reytblat, Z. V. (Engineer)

TITLE: Photoelastic transducer for measuring linear deformations

SOURCE: Beton i zhelezobeton, no. 7, 1965, 23-26

TOPIC TAGS: material strength, deformation meter, photoelasticity

ABSTRACT: The construction and use of transducers (made from an optically active material) for measuring linear deformations on the surface of concrete are discussed. The principal purpose of the article is to resolve questions of construction and application. Certain other aspects of the same problem area were treated previously by the authors (Metod fotouprugikh pokrytiy i yego primeneniye k issledovaniyu zhelezobetonnykh konstruktsiy. BashNIIStroy. Sbornik trudov instituta. Vyp. IV, 1964). The photoelastic transducer is a molded strip made from an optically active material equipped with foil serving as a reflecting layer attached to one side. The strip may be attached only at its ends. The arrangement is such that deformations in the tested material result in a corresponding quantifiable optical effect. The authors worked through the derivation of the

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optical working equations. Deformations of the optical material are related to its geometric configuration and to Poisson's ratio. The optical material deformation is derived from the equation

$$\varepsilon_x = \frac{1}{l}\,\varepsilon_{1,0}\,n(x_0)\,a(x_0)\int_0^l \frac{dx}{a(x)\,\delta(x)E(x)},$$

where ε_x is the tensile stress in the material strip, l is the base of the material, $n(x_0)$ and $a(x_0)$ are the magnitude of the strip and the width of the transducer from the point of observation x_0, and $a(x)$, $\delta(x)$, and $E(x)$ are the width, thickness, and modulus of elasticity of the transducer material as a function of x. Five types of optical test strips are described along with the best uses of each. The results of the use of the strips in deformation tests are discussed. The five strips differ mainly in layer configuration and manner of attachment. The authors suggest that the strips described are inexpensive, easy to use, and quite reliable. Orig. art. has: 8 figures and 10 equations.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: ME, MT

NO REF SOV: 003 OTHER: 000

Card 2/2

ACC NR: AT7002109 (N) SOURCE CODE: UR/0000/66/000/000/0243/0248

AUTHOR: Babkov, V. V.; Reytblat, Z. V.

ORG: none

TITLE: A photoelastic transducer for measuring deformation

SOURCE: Vsesoyuznaya konferentsiya po polyarizatsionno-opticheskomu metodu issledovaniya napryazheniy. 5th, Leningrad, 1964. Polyarizatsionno-opticheskiy metod issledovaniya napryazheniy (Polarizing-optical method of investigating stresses); trudy konferentsii. Leningrad, Izd-vo Leningr. univ., 1966, 243-248

TOPIC TAGS: photoelasticity, elastic deformation, elasticity theory, elastic modulus, creep mechanism

ABSTRACT: A theoretical analysis was done on a photoelastic transducer for measuring deformation. A wedge-shaped transducer was chosen with variable width $a(x)$ and thickness $\delta(x)$. Both the elastic modulus and photoelastic band width of the transducer remained constant with temperature in the range 20-40°. An equilibrium equation was given for deformation which included the coefficient of linear expansion of the transducer and tested material. An analysis of this equation was done for thermal and nonthermal compensation. A schematic drawing showed the top and side views of the attached transducer. Each end was bonded to a surface for stress measurements. A photograph showed the photoelastic lines which resulted from stressing a surface with a

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ACC NR: AT7002109

bonded transducer. The lines decreased in width along the transducer due to the variable width and thickness. Equations were given for linear deformation and for the tilt angle between the ends of the transducer, which was derived from the bending moment acting on the assembly. Other varieties of photoelastic pickups were considered: hyperbolic design with equal line spacings, rectangular, circular, and strips glued on surfaces. For the wedge-shaped and hyperbolic types, the relative linear deformation was given as a function of standardizing coefficient, coordinates of two arbitrary lines, and the number of lines between these coordinates. Creep characteristics of the bonding glue were studied in order to estimate measurement errors from this effect. An equation was given for the creep rate in the second stage (constant rate) as a function of time. The best creep parameters were obtained with glues that were used without plasticizers. The elastic modulus of the glue stabilized in 4 days. Typical uses of these techniques were outlined. Orig. art. has: 2 figures, 10 formulas.

SUB CODE: 11,13,14/SUBM DATE: 14Jun66/ ORIG REF: 003

Card 2/2

REYTBLAT, Z.V.

Mean value theorem for linear elliptic equations with Lipschitz class coefficients. Dokl.AN SSSR 133 no.6: 1300-1302 Ag '60. (MIRA 13:8)

1. Institut matematiki Sibirskogo otdeleniya Akademii nauk SSSR. Predstavleno akad. S.L.Sobolevym.
(Equations)

REYTBLAT, Z.V.

Applying the variation method to the nonlinear theory of elasticity. Nauch.dokl.vys.shkoly; fiz.-mat.nauki no.2: 118-119 '59. (MIRA 13:3)

1. Yakutskiy gosudarstvennyy universitet.
(Elasticity)

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AUTHOR: Reytblat, Z. V.

TITLE: Mean Value Theorem for Linear Elliptic Equations With Lipschitz Class Coefficients

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 133, No. 6, pp. 1300-1302

TEXT: The author uses the notations of (Ref.1).

Let $u(x)$ be the solution of the equation

$$(1) \qquad \mathcal{M}u = \sum_{i,k}^{n} a_{ik} u_{ik} + \sum_{i} b_i u_i + cu = f$$

in the n-dimensional open domain $\Omega = \Omega(x)$ with the boundary S, where $f \in L_p$; $p > n/2$; $a_{ik}, b_i, c \in C^{(0,\lambda)}$; $0 < \lambda \leq 1$; $c < 0$; $\sum_{i,k}^{n} a_{ik} t_i t_k > \gamma \sum_i t_i^2$, $\gamma > 0$. Let $y \in \Omega$, and the sphere $\Omega_\delta(y) \{ |x - y| < \delta \}$ is assumed to lie in

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C 111/ C 333

Mean Value Theorem for Linear Elliptic Equations With Lipschitz Class Coefficients

together with its boundary $\overline{\Omega_\delta(y)}$. Let $F(x,z;\,y,\delta)$, $x,z \in \Omega_\delta(y)$, be the Green function for the solution of the Dirichlet problem for (1) in $\Omega_\delta(y)$. Let

$$\varphi_\delta(\varrho) = \exp\left(-\frac{1}{\delta^2-\varrho^2}\right) \text{ for } \varrho < \delta \text{ and } \varphi_\delta(\varrho) = 0 \text{ for } \varrho \geq \delta .$$

Let

$$(2_3)\quad \mathfrak{A}(\delta) = \int_0^\delta \varphi_\delta(\varrho)\,\varrho^{m-1}\,d\varrho$$

$$(2_3)\quad A(y;\delta) = \frac{1}{\mathfrak{A}(\delta)} \int_0^\delta \varphi_\delta(\varrho)\,\varrho^{m-1} \int_{\partial\Omega_\varrho(y)} F(x,z;\,y,\varrho)\,f(z)\,d\omega_z\,d\varrho$$

$$(2_4)\quad F^{(\delta)}(x;z) = -\varphi_\delta(\varrho)\,\varrho^{m-1}\,\widetilde{\vartheta}_z\,F(x,z;\,y,\varrho) .$$

In (2_4) it is $\varrho = r(z) = |z-y|$ and ϑ_z means that the operator ϑ is to be applied to F as function of z on the surface

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C 111/ C 333

Mean Value Theorem for Linear Elliptic Equations With Lipschitz Class Coefficients

of the sphere $|z-y| = \rho$.

Theorem: If $n(x)$ is solution of (1), then the equation

$$(2) \qquad u(y) = \frac{1}{\varkappa(\delta)} X(y,\delta) + \frac{1}{\varkappa(\delta)} \int_{\Omega} F^{(\delta)}(y,z)\, u(z)\, d\Omega$$

is satisfied for all $y \in \Omega$ and all $\delta < |y-S|$. Conversely if $u \in L_p$ and if (2) is satisfied for all $y \in \Omega$, $\delta < \delta_1/2$, where $\delta_1 < |y-S|$ is arbitrary, then u is solution of (1).

The author thanks Yu. G. Reshetnyak for advices.

There are 3 references, all non-Soviet.

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C 111/ C 333

Mean Value Theorem for Linear Elliptic Equations With Lipschitz Class Coefficients

[Abstractor's note: (Ref.1) is the report of C. Miranda "Partial Elliptic Equations"].

ASSOCIATION: Institut matematiki Sibirskogo otdeleniya Akademii nauk SSSR (Institute of Mathematics of the Siberian Department of the Academy of Sciences USSR)

PRESENTED: April 15, 1960, by S. L. Sobolev, Academician

SUBMITTED: April 6, 1960

Card 4/4

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(Chlorine compounds) (Cobalt compounds) (Isomerism)

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S/058/62/000/008/054/134
A061/A101

AUTHORS: Medvedev, N. M., Reyterov, V. M.

TITLE: Optical properties of fluoride glasses

PERIODICAL: Referativnyy zhurnal, Fizika, no. 8, 1962, 2, abstract 8G6 ("Tr. Leningr. tekhnol. in-ta im. Lensoveta", 1961, no. 52, 39 - 48)

TEXT: An expression for the calculation of ionic-atomic refractions of elements entering the composition of fluoride glasses has been obtained from the solution of a system of four equations. Two of them are empirical expressions of the relationship between the refractions of the material and the ionic-atomic refractions of its components for two wavelengths. The other two equations describe the dispersion of the cation and anion refractions as functions of the wavelength of light. The calculated ionic-atomic refractions of halide anions show a periodic dependence on the crystal lattice energy of the halides of metals of the I and II principal subgroups in the periodic system. It is shown that fluorine ion refractions in the majority of fluoride glasses depend linearly on the energy of the structural glass lattice. The suggested method

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A061/A101

Optical properties of fluoride glasses

of determining the ionic refractions yields values being preferable to the free-ion refractions according to Fayence and Joos, as they appear to be more distinctly dependent on the glass composition.

A. Yakhkind

[Abstracter's note: Complete translation]

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ACC NR: AP7000028 SOURCE CODE: UR/0051/66/021/005/0583/0587

AUTHOR: Reyterov, V. M.; Korneva, Z. N.

ORG: none

TITLE: Coloring of fluorite crystals during the growth process

SOURCE: Optika i spektroskopiya, v. 21, no. 5, 1966, 583-587

TOPIC TAGS: fluorite, crystal growth, color center, light absorption, absorption spectrum, crystal defect, oxidation

ABSTRACT: Unlike earlier investigations, where the coloring was produced by external means such as irradiation or additives, the authors investigate the spectral absorption of artificially grown colored fluorite crystals, in which the coloring is induced directly during the growth process without special activation with coloring elements. This phenomenon was referred to only indirectly in the few existing earlier studies. The crystals were grown by the Stockbarger method in vacuum for a relatively long period of time, and the presented spectra are the results of statistical processing of a large number of absorption spectra obtained for a great variety of grown fluorite crystals. Two types of absorption spectra were observed for the colored crystals, one characteristic of subtractive coloring and the other of additive coloring. The latter was similar to that obtained for additively colored crystals activated with Ca. The coloring of the crystals during the growing is shown to be connected with deterioration of the vacuum during the process of crystallization, so

Card 1/2 UDC: 535.34: 548.0